

Customer No.: 31561  
Docket No.: 10545-US-PA  
Application No.: 10/708,664

### **REMARKS**

#### **Present Status of Application**

Claims 1-6, 8-13 and 15-17 remain pending in the application. Claims 1-6, 8-13 and 15-17 are rejected under 35 U.S.C. 112, first paragraph. In addition, claims 1-6, 8-13 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kung (US Publication No. 2003/0222352). Claims 1-6, 8-13 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kung in view of Lee (US Publication No. 2002/0121692). Applicants have amended independent claims 1 and 8 and added claims 22-23. After entry of amendments, claims 1-6, 8-13, 15-17, and 22-23 remain pending and reconsideration of those claims is respectfully requested.

#### **Discussion for 35 U.S.C. 112 rejections**

Applicants have amended independent claims 1 and 8 to overcome rejections and improve clarity.

Further with respect to the limitation of "*the wetting-barrier layer only covers an surface of the barrier layer*", Applicants do not limit it in independent claims 1 and 8, as the amendments in response to the Final Office Action.

However, claims 22 and 23 are accordingly added with positive terminology.

#### **Discussion for 35 U.S.C. 103 rejections**

Claims 1-6, 8-13 and 15-17 are rejected under 35 U.S.C. 103(a) as being

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unpatentable over Kung. Claims 1-6, 8-13 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kung in view of Lee. Applicants have amended independent claims 1 and 8 and respectfully traverse the rejections.

1. After amendment on independent claims 1 and 8, the wetting-barrier layer is specifically defined as a nickel. It should be noted in the present invention that the nickel in the wetting-barrier layer can reduce the diffusion of the tin atoms in the bump 230. As a result, the wetting effect between the UBM layer 220 and the bump 230 can be maintained ([0029]).

2. In re Kung, as previously stated, the wettable layer 216 of Kung is not specifically defined as a nickel while the bump includes tin material.

3. In re Lee, the metal layer 20 is used in the electroplating process so that the final layer 22 of solder is electroplated on the surface of the layer 20. Apparently, the layer 20 is not used to server as a wetting-barrier layer of the present invention.

Further similarly to Kung, the metal layer 20 can be, i.e., copper or nickel [0014]. In other words, Lee does not equally disclose that the wetting-barrier layer is just the nickel in the present invention while the bump including tin.

Therefore, although Lee is further cited in combination with Kung, the features of the present invention are at least not specifically disclosed.

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4. For at least the foregoing reasons, Applicants respectfully submit that independent claims 1 and 8 patently define over the prior art, and should be allowed. For at least the same reasons, dependent claims 1-6, 9-13, 15-17, and 22-23 patently define over the prior art as well.

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**CONCLUSION**

In view of the foregoing, it is believed that all pending claims 1-6, 8-13, 15-17, and 22-23 are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

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Respectfully submitted,

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